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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,538	06/10/2002	Thomas N. Masters	38151/203996	6926
826	7590	04/20/2005	EXAMINER	
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000				MITCHELL, GREGORY W
ART UNIT		PAPER NUMBER		
		1617		

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/088,538	MASTERS, THOMAS N.	
	Examiner Gregory W. Mitchell	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 18 January 2005.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 6,7 and 9-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 6,7 and 9-14 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All    b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.



## DETAILED ACTION

This Office Action is in response to the Remarks and Amendments filed January 18, 2005. Claims 6 and 9 have been amended. Claims 11-14 have been added. Claims 6-7 and 9-14 are pending and are examined herein.

The 35 USC 103 rejections of the Office Action dated August 24, 2004 are hereby withdrawn. The following rejections now apply.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raymond (USPN 5693462) in view of Massoudy et al. (*J. Mol. Cell. Cardiol.* 29, 535-544).

Raymond teaches preservation solutions for preserving and storing organs, such as the heart, awaiting transplantation (Abstract; col. 3, line 41-col. 4, line 2). The isotonic solution as instantly claimed is taught (col. 4, lines 15-33). Water is taught as a diluent for the storage solution (Abstract). For storage, the organ is perfused with the preservation solutions disclosed (col. 3, lines 41-58). Storage times of up to 24 hours are disclosed (col. 3, lines 43-58). It is taught that the object of the preservation solution

is to remedy the organ injury problems caused by the deleterious effects of ischemia and reperfusion (col. 2, lines 5-59). Raymond does not specifically teach the utilization of cyclosporine A in the composition or methods disclosed therein.

Massoudy et al. teaches that cyclosporine A acts as a cardioprotective agent in ischemia and reperfusion (Abstract). Cyclosporine A, in concentrations of 0.8  $\mu$ m in Krebs-Henseleit buffer, was shown to significantly prevent the loss of post-ischemic cardiac function (p. 537, col. 1, 2<sup>nd</sup> full ¶; p. 539, col. 2, 1<sup>st</sup> ¶).

It would have been obvious to one of ordinary skill in the art to add cyclosporine A to the composition of Raymond for the preservation of organs, such as hearts, because (1) Raymond and Massoudy et al. are directed to an analogous art, namely both are directed to the preservation of organ function following ischemia and reperfusion; and (2) Massoudy et al. teaches that cyclosporine A acts as a cardioprotective agent in ischemia and reperfusion. One would have been motivated to add the cyclosporine A of Massoudy et al. to the composition of Raymond because of an expectation of success in improving the cardioprotective characteristics thereof.

It would have been obvious to one of ordinary skill in the art to utilize cyclosporine A in the concentration as instantly claimed because "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It is noted that the compositions of both Raymond and Massoudy et al. are directed to compositions suitable for preserving/protecting the heart from ischemia and

reperfusion injury. "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

It is also noted that the methods of Raymond and those as instantly claimed are both directed to preserving and storing of an organ (heart). Accordingly, the composition rendered obvious by the combined references would obviously block apoptosis because the same composition administered for the same purpose will obviously function via the same mechanism, whether or not that mechanism is disclosed in the prior art.

### ***Response to Arguments***

Applicant's arguments regarding Raymond are not persuasive. Applicant argues that Raymond teaches "an entirely different solution for an entirely different purpose." This argument is not persuasive. Raymond teaches a composition comprising an isotonic solution and water, as instantly claimed. While it is true that Raymond further teaches the addition of other agents, such as an amiloride containing compound and adenosine, the instant claims are directed to the open language of "comprising." Accordingly, Applicant's claimed invention does not preclude a composition from comprising amiloride and adenosine. Furthermore, Applicant's arguments that Raymond is not directed to the same subject as the instant invention because it does

not prevent ATP loss is not persuasive because (1) the Applicant is arguing limitations that are not in the claims; and (2) both Raymond and the invention as instantly claimed are directed to the preservation of an organ awaiting transplantation.

Applicant's arguments regarding Jurado et al. are moot in view of the instant rejection.

With regard to Massoudy et al., Applicant's argument that "Preventing apoptosis has nothing to do with the findings that Massoudy et al. mention at this stage with a nitric oxide-dependent mechanism impeded by endothelin" is not persuasive because, as discussed above, Massoudy et al. teaches that cyclosporine A acts as a cardioprotective agent in ischemia and reperfusion. Accordingly, it is properly combinable with Raymond because it is from an analogous art. It is also noted that a method of *preserving* an organ would obviously preclude or at least limit cell death of any sort. Furthermore, it is noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues "Massoudy et al. is silent about the effects on an isolated heart preserved in the isotonic solutions disclosed in Massoudy et al." This argument is not persuasive. First, Massoudy et al. is used only to show that it would have been obvious to one of ordinary skill in the art to utilize cyclosporine A in the composition of Raymond, not to completely disclose Applicant's invention in the absence of another reference. One cannot show nonobviousness by attacking references individually where the

rejections are based on combinations of references. *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Second, Massoudy et al. teaches the effects on the heart following perfusion with cyclosporine A (see p. 537, col. 1, 2<sup>nd</sup> full ¶; p. 539, col. 2, 1<sup>st</sup> ¶). Raymond teaches that storage/preservation of the organ is achieved via perfusion (Abstract). Furthermore, the instant invention claims a method of preserving a heart by perfusing said heart with the claimed solution (see claim 6).

It is also noted that Applicant's showing of unexpected results is not persuasive because Raymond specifically discloses that the solution disclosed therein is useful for preserving organs for at least 24 hours.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory W Mitchell whose telephone number is 571-272-2907. The examiner can normally be reached on M-F, 8:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gwm



**SREENI PADMANABHAN**  
SUPERVISORY PATENT EXAMINER